Water and society in early medieval Italy, AD 400–1000

Paolo Squatriti

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Introduction

"Paradoxically, one must begin with water," or so Fernand Braudel, the great historian of the early modern Mediterranean, once stated.[1] Taken out of the context of Braudel's justly famous study of material culture, the paradox is opaque. Braudel meant only that water played a very significant role in early modern nutrition, but his recommendation to begin with water may be usefully applied more generally to any sort of study of the economic, social, and cultural conditions of past societies. Braudel may not have intended it thus, but (paradox within the paradox) he was right.

Water, in fact, is an essential element for any community. Without it organized human life becomes difficult or downright impossible. All societies are therefore obliged to confront the many problems of organizing an adequate supply of water of different types for different purposes. From prehistoric times mankind has experimented with many systems to secure such a supply, and it is no coincidence that the earliest forms of "civilization" in Mesopotamia and Egypt occurred among people who had solved the problems of water management brilliantly. Indeed, the contemporaneous emergence of "civilization" and "hydraulic societies" in those places induced Karl Wittfogel to hypothesize that organized water supply was closely connected to state formation of the most bureaucratic and despotic kind.[2] Regardless of the accuracy of the Wittfogelian hypothesis, it was accurate in its proposition that procuring water sufficient in quantity and quality for the needs of its members has been one of the principal preoccupations of most societies.

Both the methods communities developed to control water in their environments and their attitudes to water generate historical documents which can shed light on how these communities organized themselves and functioned. Whether in the form of a spring where people filled their

[1] F. Braudel, *Civilisation matérielle et capitalisme (XVe–XVIIIe siècles)* I (Paris, 1967), p. 168: "Il faut paradoxalement commencer par l'eau."

[2] K. Wittfogel's intelligent but now disputed and slightly threadbare contentions are outlined in his *Oriental Despotism: A Comparative Study of Total Power* (New Haven, 1957).

urns, or in a bath hall, or in an irrigation channel, or even flowing, swiftly or sluggishly, in stream beds, water gave life its contours. It was biologically necessary to each individual, of course, but, because few took to the total solitude of the Christian desert ascetics of late antiquity, the management of water was equally relevant as a backbone of organized community life. Historians of the classical world have long known this and have investigated many aspects of water-provisioning in Greek and Roman societies. Roman historians have diligently studied the technological aspects of water management, and have built a sound understanding of aqueducts and urban water distribution. They have moreover delved into the impenetrable rural landscape of antiquity to investigate water allocation.[3]

In contrast, there are few studies of the history of water and its management in the European Middle Ages, and the historiography of early medieval Italy has concerned itself only tangentially with this issue.[4] Yet the study of water and of the systems societies adopt, as they inevitably must, to control it is profoundly revealing. From them technological levels can be assessed and, thanks to the fact that all societies must develop such systems, compared. From them social and economic relations emerge; an example is irrigation communities and their systems for sharing water, always an index of hierarchy (whoever has more right and access to the water is generally most powerful in the community). From the attitudes of a society toward the control of this natural resource its cultural presuppositions, how it locates culture in nature, can be reconstructed. In short, water-management schemes supply excellent vantage points from which to observe and understand people as they interact with each other and their environments.

Strategies of water management, moreover, change over time and thus

[3] There are scores of works about Rome's aqueducts. See, for example, H. Evans, *Water Distribution in Ancient Rome* (Ann Arbor, 1994). For rural work, see B. Shaw, "Lamasba," *Antiquités africaines* 18 (1982), pp. 61–103. For Ö. Wikander's fine research on water mills in antiquity, see the articles in *Opuscula Romana*: "Water Mills in Ancient Rome," 12 (1979), pp. 13–36; "The Use of Water Power in Classical Antiquity," 13 (1981), pp. 91–104; "Mill Channels, Weirs, and Ponds," 15 (1985), pp. 143–54.

[4] Happily there are exceptions. A. Guillerme, *Le temps de l'eau* (Seyssel, 1983), provided one model of aquatic history for the Middle Ages and later times. Iberian waters have been studied by T. Glick (see his *From Muslim Fortress to Christian Castle* [Manchester, 1995]). Two excellent series dealing with the history of water supply in past societies (mostly Europe) are being published: the Frontinus-Gesellschaft's *Geschichte der Wasserversorgung*, and *L'homme et l'eau en Mediterrannée et au proche orient* of the Maison de l'Orient, Lyons. The latter, which treats all periods in theory, omits in practice the Middle Ages. Encouraging signs that hydraulic factors are being considered historically significant can be found in the French regional studies of Italy, modeled on P. Toubert's classic, *Les structures du Latium médiéval* (Rome, 1973); see, for instance, J.-M. Martin, *La Pouille du VIe au XIe siècle* (Rome, 1993), pp. 70–87.

have a history. Certainly systems of water supply are "structures" in the sense Braudel gave to the term, fundamental, almost changeless geographical backdrops to human activity which strongly influence that activity. At the same time, such systems are not immobile, but evolve. Rome in 300 BC had no aqueducts, after all, while the city was famed as "queen of the waters" at the end of its imperial career. Even so structural a water-control system as the Mesopotamian irrigation network collapsed, more than once, and was replaced by less ambitious aqueous adaptations. A further example of change in strategies for the supply of water, and one which will concern us in what follows rather more closely than the Tigris–Euphrates plain, is postclassical Italy. There the shift from abundant public water supplies to overwhelmingly private ones as a result of the retreat of the state from this arena, especially after the 700s, was a decisive development for all involved. As it does everywhere else, the "aquatic history" of early medieval Italy illuminates oscillations in social relations, economic conditions, and cultural expectations in the peninsula. It does so in the best possible way, namely, by setting these variables against an environmental backdrop. Thus water's history in early medieval Italy offers a chance to "do" environmental history at its richest.[5]

The early medieval period is a particularly useful one in which to analyze changing systems of water procurement, allocation, and control. This period, stretching across fully six hundred years, allows for analysis of the structures of water over the *longue durée*. After Gibbon invented the notion of decline and fall, historians have been acutely aware of the deep transformations ancient society underwent in the centuries now called early medieval. A study of how societies coped with problems of hydraulics gains relevance precisely when it covers a crucial period of social, economic, political, and cultural transformation. Because between the fifth and the tenth centuries much changed, it is instructive to trace how water management changed, or did not, alongside social hierarchies, religious values, and economic networks. The examination of how postclassical societies dealt with water thus contributes to the ongoing debate on the transition from antiquity to the Middle Ages, or on the decline and fall of the Roman Empire, as Gibbon would have it.

Among postclassical societies, the Italian ones are especially suited to an "aqueous history" which attempts to gauge change from ancient

[5] As outlined, a bit categorically, by D. Worster, "Doing Environmental History," in Worster (ed.), *The Ends of the Earth* (Cambridge, 1988), pp. 289–307. Not all the components of environmental history as Worster and other Americanists conceive it are applicable to premodern European societies, but the tripartite model of such history (an ecological base, an economic structure within it, and cultural assumptions interacting with both) is useful.

conditions. In the peninsula Roman civilization had been born and had taken root most vigorously, and there it left the thickest sediment after its demise. Italy is thus a cultural sphere within which ancient norms and ways had developed fully and in which they retained relevance long after AD 476, when the last emperor was retired and the Roman Empire formally ended in the West. Italy is also a geographic zone of great hydrological interest. Between the Alps and the Ionian Sea exists an array of conditions determined by climate, relief, geology, and vegetation. This variety lends special usefulness to the study of human adaptations to the Italian environment. From the continental climate of the Po valley to the arid table of Apulia, passing over Apennine mountains, hills, and enclosed basins, the Italian peninsula offers a greater variety of geographical "structures" than any other Mediterranean region. The history of water management in the peninsula is therefore appropriate for comparisons with many other places, whether "continental" or "Mediterranean," where similar conditions exist.

An analysis of human adjustments to water in the evolving postclassical Italy is thus both an analysis of a sometimes neutral, almost inert thing, an element with stable characteristics such as chemical composition, boiling and freezing temperature, or susceptibility to gravity, and an analysis of people's imaginative reactions to it. This study demonstrates one thing above all others: water was indissolubly both matter and custom, both nature and culture in the diverse landscapes of Italy during the early Middle Ages. This duality shaped the modes of water procurement, distribution, and usage. Practical and biological necessities contributed to people's intake of water, to their settlement patterns, to their ability to exploit the resource. Alongside the necessities, the choices people exercised, their willingness to do some things with water but not others, their perseverance in seeking to modify the behavior of the waters so as to suit their cultural expectations, strongly affected water management. The interaction of natural and cultural components is a leitmotiv of Italy's early medieval "aqueous history."

Of course there were as many different types of water as there were things to do with it in early medieval Italy. Such variety has lent this study its structure. In the first place, physiological needs meant that people lived in close proximity to water for domestic uses, like drinking and cooking. As chapter 1 of this study reveals, early medieval systems to secure this "purest" type of water were numerous and flexible, designed to lessen the risk of shortfall in a most sensitive area of water supply. Such variety and flexibility represented a continuation of Roman traditions as in fact did the apparent early medieval reluctance to drink water neat. Sparing use of water in the domestic context has been linked to the pur-

ported mediocre quality of water available, but in the first chapter an alternative explanation is advanced which places the consumption of water in its proper cultural context rather than understanding it in exclusively biological terms.

Water was a vital substance necessary to life, but also had voluptuary, frivolous destinations. Among ancient societies, the Roman one was most noted for its willingness to allocate huge hydraulic resources to such unnecessary things as baths and bathing. Within the Roman Empire, the Italian peninsula was the region perhaps fondest of baths. Postclassical Italy's baths and their transformations provide an excellent microcosm in which to observe the end of antiquity and the beginning of the Middle Ages. Patronage of public baths by prominent citizens was replaced by episcopal patronage, and the charitable washings of the eighth century are a faint echo of the public establishments of Roman Italy. The shrinking state left bathing to ecclesiastical institutions and private water supplies. Technologies evolved, too, with fewer baths fed by aqueducts and more by cisterns. Subsequent discussions disclose that, as patronage and technologies associated with baths evolved after about 400, how people bathed changed as well, though the custom of communal bathing showed a surprising resilience. For in Roman times bathing was not merely a matter of hygiene or bodily relaxation, but a social event which combined both. In late antiquity and with gathering emphasis thereafter, the division of the cleansing bath from the recreational bath drove the history of the practice of bathing. As moral fulminations struck the recreational bath with increasing frequency, its cultural prominence faded. Thus, by the tenth century, few baths existed in Italy open to a socially diverse public eager to lounge naked in company. Several small, private baths fit for a solitary bather graced urban houses instead.

In rural areas water had still different uses. Agriculture in the broadest sense depended on the regulation of waters, whether in pampered vegetable gardens, arable fields, pastures, or even in the utilizable wilderness. How water functioned in a given landscape depended on precipitation, relief, soil composition, hydrology, and an array of other ecological factors; it was thus a Braudelian structure, but one which changed over a *durée* as *longue* as the early Middle Ages. Agricultural adaptations to these conditions could and did change correspondingly in that period. Irrigation and drainage took different forms in different places, and accordingly shaped the social relations that they evoked. For example, the drainage of long-uncultivated lands toward the end of the first millennium, particularly in northern Italy, was closely connected to the interests of large landlords and dependent on subaltern workers' hunger for land. The removal of water from the Po lowlands provided an opportunity for

the construction of vast estates populated by subject tenants.[6] Thus the story of agricultural hydraulics can mirror the social and demographic history of early medieval Italy. The water in the fields likewise had a cultural history. Willingness to drain or irrigate, or willingness to use overwatered lands and their swamps, are as much mentalities as they are products of economic and natural constraints. Chapter 3 explores these issues.

Chapter 4 investigates a further type of water and a way of using it. Fish teemed in the water courses of the peninsula, something of which its human inhabitants were aware in the early Middle Ages. How they reacted to this abundance reveals far more than the technologies they had available. The preponderance of fresh-water fish on early medieval tables, or on those about which we know most, resulted from tastes and preferences and from legal patterns which made ownership of fresh-water courses possible. Water for fishing became a valuable commodity while fish became a viable substitute for meat among practicing Christians during the early Middle Ages. In this respect, too, the period was dynamic and its adaptations to available aqueous resources were subtle and varied.

Finally, water was a resource which, carefully guided and coaxed, generated energy. As there is virtually no sign in the early medieval Italian peninsula that flowing water powered machines which did anything but grind grain, chapter 5 of this study considers the use of water in milling. It considers the technologies and their dissemination but also how this form of water use shaped social relations, brought people together, affected the allocation of work, and served as a tool of surplus extraction from grain producers. Once again, water emerges as far more than a placid element; rather, it is a locus of social exchange and power relations whose history ties in with the decisive political, economic, and social trends of the times.

Throughout the postclassical centuries, from the Alps to the Mezzogiorno, the most prominent theme in aqueous history is probably the seizure of water resources by powerful landlords. Their attempt to monopolize this resource and turn it into private property depended on the unwillingness and incapacity of rulers to perpetuate the Roman imperial tradition of water as a public, common resource available to all.[7] Thus, from at least the eighth century onward, monasteries, churches, and then secular magnates won legal rights over rivers, streams, and other

[6] See F. Menant, *Campagnes lombardes du moyen âge* (Rome, 1993), pp. 42–5.

[7] Roman law contained numerous provisions to free up access to "public" (that is, perennially flowing) waters: an emphatic example is *Digest*, 39.2.24 (Ulpian), p. 389: "fluminum publicorum communis est usus." See also 43.12.1–2, pp. 578–80, 43.14.1, p. 581, and *Institutiones*, ed. P. Kreuger (Berlin, 1872), 2.1.2–5, p. 12. Not all waters were "public," naturally.

sources of water. They did not become the sole proprietors of all the waters, something to which they probably did not aspire anyway. But by the tenth century significant proportions of the waters in the most convenient locations and with the greatest use-value belonged to powerful people who could exclude others from access. This process of patrimonialization of water resources was an integral part of the redefinition of social and economic equilibria which characterized the last two centuries of the first millennium in Italy. Its exposure as the central theme in the history of water after the demise of imperial Rome has been a central object in this study.

Water, then, had almost endless applications and forms. This makes a *histoire totale* of it in early medieval Italy almost impossible. The use of water as a means of transporting people and goods in the Middle Ages is certainly one of the foremost usages of water, but it has been quite well served already and is not tackled here.[8] Magic water and water in ritual is another area overlooked, for this vast subject, which has also attracted some attention, would require a separate monograph rather different in scope from the present one, one more focused on ecclesiastical sources.[9]

Of course most sources preserved from the early Middle Ages are ecclesiastical in some sense, including most of those employed here. Even the charters recording agrarian contracts were preserved in ecclesiastical archives and defended ecclesiastical interests, though they are one of the best windows onto everyday use of water by ordinary folk in the areas where they were written. Together with legal texts and court cases, the contracts reveal much. For instance, they unveil what certainly appears as an appropriation of water resources by the powerful, which had already begun in the eighth century, the first century for which charter evidence survives in reasonable quantities. Charters are most communicative when integrated with narrative sources, letters, chronicles, and biographies. These exist for the entire period between AD 400 and 1000, and contain much information on the social contexts within which water was

[8] A sampling of relevant works is listed here, to which should be added the papers dealing with water transport in *Settimane* 40 (1993): A. Leighton, *Transport and Communication in Early Medieval Europe, AD 500–1100* (New York, 1972); L. Bellini, *Le saline dell'antico delta padano* (Ferrara, 1962); L.-M. Hartmann, *Zur Wirtschaftsgeschichte Italiens im frühen Mittelalter* (Gotha, 1904); M. Montanari, *Alimentazione e cultura nel medioevo* (Bari, 1988), pp. 147–63; G. Fasoli, "Navigazione fluviale," *Settimane* 25 (1978), pp. 565–607.

[9] Most subjects related to water in Christian ritual and belief (baptism, blessings, etc.) are clearly treated in Leclercq and Cabrol's *Dictionnaire d'archéologie chrétienne et de liturgie.* Ritual water is treated in G. Binding, "Quellen, Brunnen, und Reliquiengraber in Kirchen," *Zeitscrift für Archäologie des Mittelalters* 3 (1975), pp. 37–56; H. Reinitzer, "Wasser des Todes und Wasser des Lebens," in H. Bohme (ed.), *Kulturgeschichte des Wassers* (Frankfurt, 1988), pp. 99–144. A recent study of one aspect is J. Rattue, *The Living Stream* (Woodbridge, Suffolk, 1995).

employed, on the expectations about water of their authors and audiences. The latter subjects are also illuminated by normative writings such as synodical decrees and monastic rules. And, throughout, archeological data, which is now beginning to be fairly copious on postclassical Italy, helps. It indicates whether hydraulic cement lined cisterns in Tuscany about 1000 (it did), how eighth-century monasteries filtered their water in Brescia, the extent to which Apulians irrigated their gardens, and the patterns of bathing in Rome in the eleventh century. Perhaps because water is of so many types and so many uses the study of its history in early medieval Italy requires a certain interdisciplinary openness to different types of evidence.

The scarcity of such evidence even over the course of the six hundred years this study addresses is most striking. It is one inducement to approach the question of water procurement and water control over a *longue durée*. The rarity of postclassical sources is compounded by the difficulties of extracting information about water from texts which, with exceptions like the anonymous *Cosmographia* from seventh-century Ravenna, did not concern themselves explicitly with hydrology or water. An "aqueous history" requires ransacking texts and using them in ways their authors did not envision for them. The passing reference to water-sharing arrangements in a charter, a description of an encounter at the baths in a historical work, orders not to drink while engaged in the monastic day – these were not intended to form a coherent picture of how water was seen and used in early medieval Italy. Yet coherence, pattern, synthesis, and generalization, even about a place as geographically and culturally diverse as the Italian peninsula, are the aims of this study. For an understanding of the history of the structure of water within its shifting human contexts requires a synoptic view. This broad picture takes into account as much as possible the ecological and cultural idiosyncrasies of each situation, and particularly of the areas of Salerno, Lucca, Ravenna, and the Po valley whose documents are most numerous. Perhaps future work will add detail, precision, nuance, and corrections, but in the meantime the analysis offered in these pages can provide a model to critique and a guide to the cultural history of an environmental resource.

Writing in the early seventh century, the encyclopedist and orthodox bishop Isidore of Seville remarked that water is by nature diverse and has many properties.[10] Isidore went on to list some of them, drawing on the classical tradition of wondrous waters (water with unusual qualities) which the elder Pliny had known so well. Water could cure or sicken

[10] Isidore of Seville, *Etymologiarum sive Originum Libri XX*, ed. M. Lindsay (Oxford, 1911), 13.3.1: "aquarum naturae diversitas multa est." See also 13.2.3–4 – "aquarum elementum ceteris omnibus imperat" – and 13.3.2–4.

people, could make plants grow, wash dirt off, quench thirst, and even remove sins. The *Etymologies* were not the only text to consider the importance of water, even in the Dark Ages. Isidore's interest in water was shared by the likes of the anonymous seventh-century Ravennan cosmographer, who in fact cited the bishop of Seville's works.[11] The cosmographer's approach was different from Isidore's. For the Ravennan, water was first and foremost an element of nature whose behavior ought to be described and explained at every stage of the water cycle. Between the two of them, these seventh-century *érudits* provided a full, composite picture of what water was in the postclassical centuries. Water, in other words, was not only the element which ruled over all others, but was a resource upon which people relied heavily and which imbued their cultural values, Christian ones in this case. Water was a natural element but produced cultural reactions (ultimately Isidore's encyclopedic list was one of these). The pages which follow trace the history of water as an element in nature, but also as a resource and a commodity able to reflect the varying outlooks of people who dealt with it during the early Middle Ages in Italy.

[11] *Ravennatis Anonymi Cosmographia*, ed. M. Pinder and G. Parthey (Aalen, 1962), 1.6–10, 4.36, pp. 16–26, 288–290. Isidore is cited as an authority on sunsets: 1.5, p. 13.